

IN THE CLAIMS:

1. (Original): A cell separation and recovery apparatus, which comprises:

a treatment part having a non-woven fabric which is bound with a polymer showing a hydrophobic nature at a temperature higher than a predetermined temperature and showing a hydrophilic nature at a temperature lower than the predetermined temperature and a physiologically active substance capable of binding to target cells, and

a liquid temperature controlling part for controlling liquid temperature of the treatment part,

wherein the cells captured on the non-woven fabric are released and recovered from the non-woven fabric by changing the liquid temperature of the treatment part around the prescribed temperature with the liquid temperature controlling part.
2. (Original): The cell separation and recovery apparatus according to claim 1, wherein the physiologically active substance is bound to the non-woven fabric via the polymer.
3. (Original): The cell separation and recovery apparatus according to claim 1, wherein the physiologically active substance is directly bound to the non-woven fabric.
4. (Original): The cell separation and recovery apparatus according to claim 1, wherein the physiologically active substance is bound to the non-woven fabric via a spacer.

5. (Currently Amended): The cell separation and recovery apparatus according to ~~any one~~ of ~~claims~~ claim 1 ~~to~~ 4, which is constituted so as to capture the cells on the non-woven fabric captures when the liquid temperature is lower than the predetermined temperature, and to release the captured cells from the non-woven fabric when the liquid temperature is higher than the predetermined temperature.

6. (Currently Amended): The cell separation and recovery apparatus according to ~~any one~~ of ~~claims~~ claim 1 ~~to~~ 4, which is constituted so as to capture the cells on the non-woven fabric when the liquid temperature is higher than the predetermined temperature, and to release the captured cells from the non-woven fabric when the liquid temperature is lower than the predetermined temperature.

7. (Currently Amended): The cell separation and recovery apparatus according to ~~any one~~ of ~~claims~~ claim 1 ~~to~~ 6, wherein the polymer is poly(N-isopropylacrylamide).

8. (Currently Amended): The cell separation and recovery apparatus according to ~~any one~~ of ~~claims~~ claim 1 ~~to~~ 6, wherein the physiologically active substance is at least one selected from the group consisting of an antigen, an antibody and a protein such as a fragment thereof.

9. (Original): A method for separating and recovering cells, which comprises:

bringing a liquid containing cells into contact with a non-woven fabric which is bound with a polymer showing a hydrophobic nature at a temperature higher than a predetermined temperature and showing a hydrophilic nature at a temperature lower than the predetermined temperature and a physiologically active substance capable of binding to target cells, to thereby capture target cells on the non-woven fabric for separating the cells,

releasing the captured cells from the non-woven fabric by changing the temperature of the non-woven fabric around the predetermined temperature, and

recovering the cells released from the non-woven fabric.

10. (Currently Amended): A method for separating and recovering cells, which comprises:

bringing a liquid containing cells into contact with the non-woven fabric in the treatment part using the separation and recovery apparatus according to ~~any one of claims claim 1 to 8~~ to capture target cells on the non-woven fabric for separating the cells from the liquid,

releasing the captured cells from the non-woven fabric by changing the liquid temperature of the treatment part around the predetermined temperature, and

recovering the cells released from the non-woven fabric.